Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] What is claimed is:

1.An engine electronics power management system comprising:

an energy source to convert mechanical energy from an engine to electrical energy;

an engine operation sensor configured to provide feedback regarding engine operating status; and

a controller connected to the engine operation sensor to receive the feedback as to engine operating status and configured to prevent transference of electrical energy from the energy source to an engine electronic upon engine shut-down.

[c2] 2. The system of claim 1 wherein the engine operation sensor includes an engine position sensor designed to provide feedback of rotational position of a rotary component of the engine.

[c3] 3. The system of claim 2 wherein the engine position sensor is a crank position sensor situated to provide feedback regarding a rotational position of a flywheel driven to rotate during engine operation.

[c4] 4. The system of claim 3 wherein the controller is connected to allow powering of an engine electronic upon detection of a rotating flywheel and prevent transference of stored energy from the energy source upon detection of a non-rotating flywheel.

[c5] 5. The system of claim 4 wherein the engine electronic is an engine control unit.

[c6] 6. The system of claim 1 wherein the energy source includes an alternator constructed to output AC power during engine operation and an AC/DC converter designed to condition AC power received from the alternator into DC power used to power the engine electronic.

[c7] 7. The system of claim 6 wherein the energy source includes an energy storage device that when charged is configured to store electrical energy engine upon shutdown.

[c8] 8. The system of claim 7 further comprising a power switch connected between the energy storage device and the engine electronic, and wherein a closing of the power switch allows transference of electrical energy from the energy storage device to the engine electronic.

[c9] 9.The system of claim 7 wherein the energy storage device is a filter capacitor and wherein the filter capacitor is

charged with DC power received by the AC/DC converter during engine running.

[c10] 10. An electronically controlled engine comprising:
a flywheel assembly configured to rotate and generate electrical energy during engine operation;
an energy storage device connected to receive electrical energy from the flywheel assembly;
an electronic component that is powered by the electrical energy; and
a selectively controlled power switch that when closed electrically connects the energy storage device and the electronic component and when opened electrically disconnects the energy storage device from the engine electronic component.

[c11] 11. The engine of claim 10 wherein the electrical energy source includes an AC/DC converter connected to the flywheel assembly and designed to convert an AC input to a DC output.

[c12] 12. The engine of claim 10 wherein the AC/DC converter is a rectifier.

[c13] 13. The engine of claim 11 wherein the energy storage device includes a filter capacitor connected to the AC/DC converter to remove transients in the DC output.

[c14] 14.The engine of claim 10 further comprising an engine position sensor configured to provide feedback of engine position to the selectively controlled power switch.

[c15] 15. The engine of claim 14 wherein the engine position sensor is a crank position sensor designed to provide feedback regarding flywheel rotational position.

[c16] 16. The engine of claim 15 wherein the flywheel assembly having a flywheel that includes at least one position indicator that is monitored during flywheel rotation by the crank position sensor.

[c17] 17. The engine of claim 10 wherein the energy storage device is configured to store electrical energy during flywheel rotation and maintain electrical storage sufficient to power the engine electronic unit upon subsequent non-rotation of the flywheel.

[c18] 18.The engine of claim 10 wherein the engine electronic includes an engine control unit.

[c19] 19. An outboard motor comprising:
an internal combustion engine to provide thrust for a watercraft;
a non-battery electrical energy source that is charged during engine operation and configured to maintain an

electrical charge absent a load placed thereon;
an engine control unit (ECU) configured to control operation of the internal combustion engine; and
an ECU enablement circuit configured to electronically connect the ECU to the non-battery electrical energy source during engine operation and electrically disconnect the ECU from the non-battery electrical energy source during engine non-operation.

[c20] 20. The outboard motor of claim 19 further comprising a crank position sensor configured to provide feedback regarding position of a crankshaft to the ECU enablement circuit.

[c21] 21. The outboard motor of claim 20 wherein crankshaft position is monitored via indicators on a flywheel operationally connected to the crankshaft.

[c22] 22.The outboard motor of claim 19 wherein the ECU enablement circuit is connected to receive feedback regarding a rotational position of the flywheel and electrically connect the ECU to the non-battery electrical energy source upon detected rotation of the flywheel.

[c23] 23.The outboard motor of claim 22 wherein the ECU enablement circuit is configured to maintain an electrical connection between the ECU and the non-battery electri-

cal energy source until non-rotation of the flywheel.

[c24] 24.The outboard motor of claim 19 wherein the non-battery electrical energy source includes a filter capacitor that is charged during engine operation and maintains an electrical charge upon non-operation of the internal combustion engine.

[c25] 25.A recreational engine control comprising:
means for providing electrical power;
an ECU powered by the means for providing electrical power;
means for indicating rotational movement;
means for storing electrical energy; and
means for preventing loss of the stored electrical energy.